

Heirloom Project



curved-door Jewelry Chest

This project will test your woodworking skills and give you an opportunity to learn a few new techniques.

There aren't many gifts that will put a smile on the face of the recipient like a hand-made jewelry chest. And since it's such a personal gift that will last a lifetime, it will always remind the owner of the craftsmanship and thought that went into building it.

The design shown above is sure to get plenty of "oohs" and "aahs,"

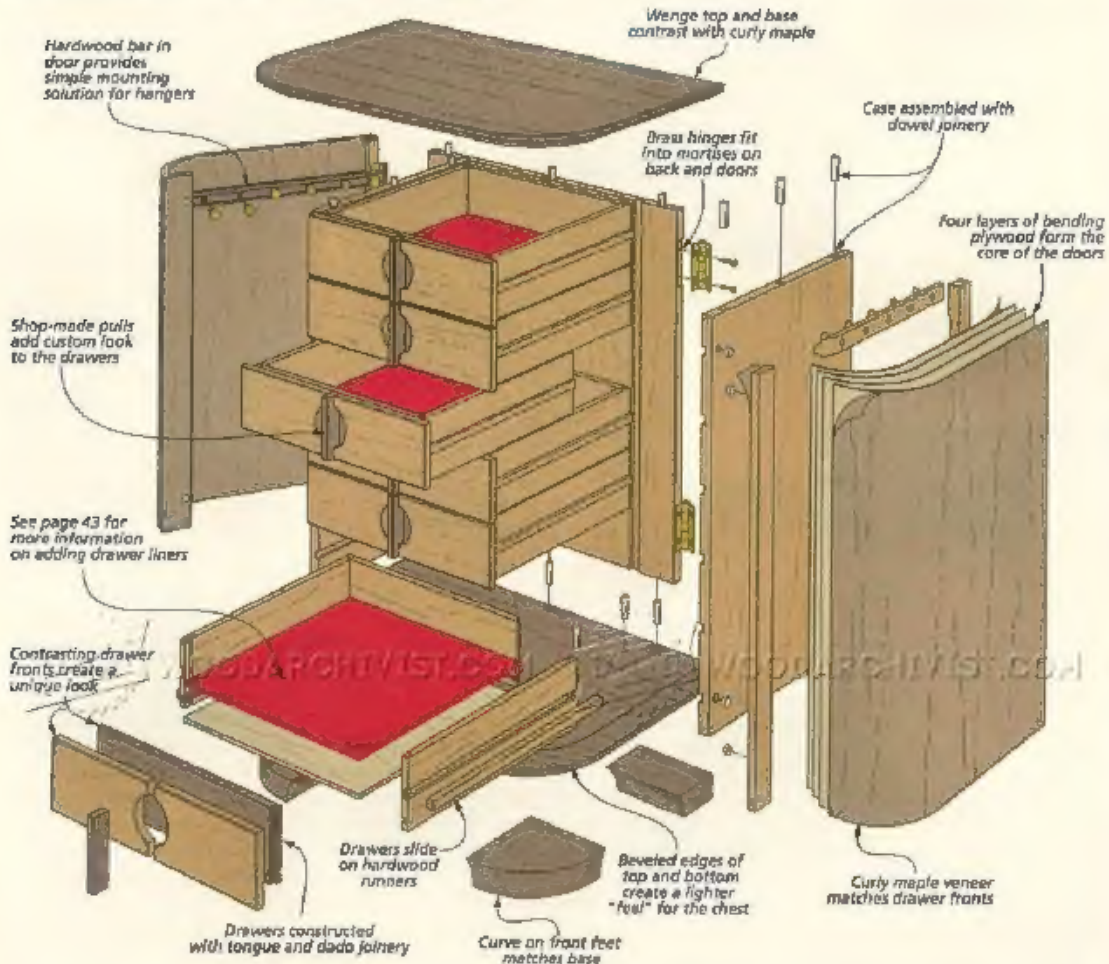
as well. The use of contrasting woods is a sure way to catch the eye. (I used maple and wenge.)

For the bulk of the jewelry chest you'll use pretty straightforward woodworking techniques. For instance, the case is assembled using tongue and dado joinery. Then, the top and bottom are attached with dowels.

But it's the curved doors that really grab your attention. And they'll give you an opportunity to try out a wood-bending technique. I used a special bending plywood to form the doors and then covered them with veneer. If you've never attempted bending wood before, this project is a great chance to give it a try.

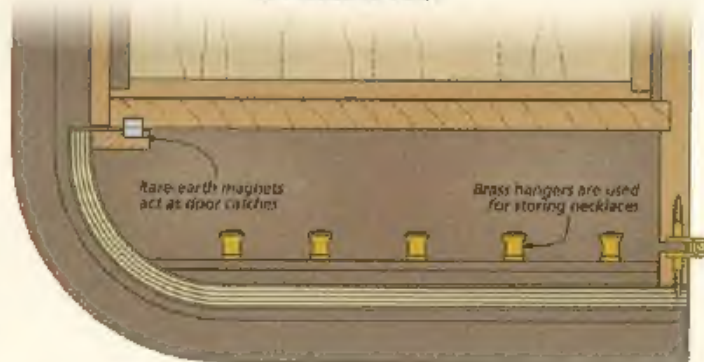
CONSTRUCTION DETAILS

OVERALL DIMENSIONS: 13⁷/₁₆"H x 14"W x 8³/₄"D



▲ The jewelry chest features specially designed storage for necklaces, jewelry, and other valuables.

TOP SECTION VIEW





start with the CASE & FEET

The basic case of the jewelry chest is formed by the back and sides.

The back has a pair of grooves to hold the sides, and the sides are dadoed to receive the drawers. After they're assembled, the top and bottom are installed with dowels and glue. I started by making the sides.

SIDES. You'll need to begin by planing your stock to $\frac{3}{8}$ " thick. Then, cut the sides to final size. With a dado blade in the table

saw, cut the matching dadoes for the drawers in both sides.

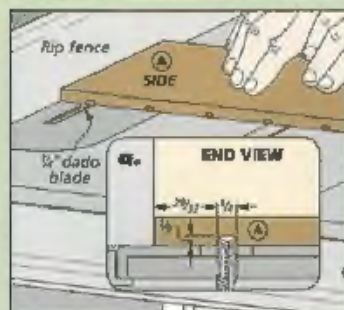
MAGNETIC CATCHES. Next, drill the holes for magnetic door catches as shown in the main drawing above. But don't install the magnets until the final assembly.

BACK. Now you can cut the back to final size and cut the two grooves on the inside face. I also routed the shallow hinge mortises in the back (detail 'c'). To do this, I sandwiched the workpiece

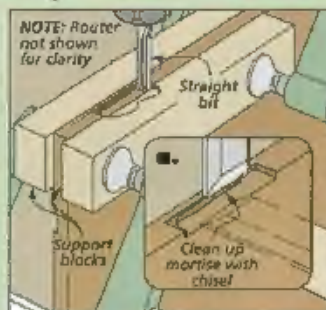
between two pieces of thick scrap to make sure the router had plenty of surface to ride on (center drawing, below). Then, square up the cuts with a chisel.

DOWEL HOLES. I also drilled holes in the ends of the sides and back at the locations shown in the main drawing. These holes house the dowels used to attach the top and bottom. I used a doweling jig to make sure the bit didn't blow out the sides (right drawing, below).

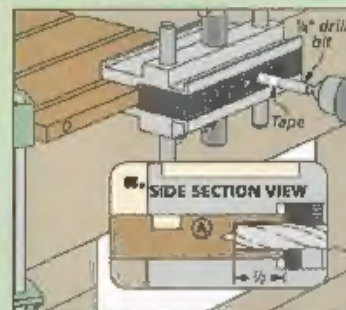
How-To: Dadoes, Hinge Mortises & Dowel Holes



Dadoes. With a $\frac{1}{4}$ " dado blade in the table saw, cut the dadoes for the drawer runners in both sides.



Route the Hinge Mortise. Clamp the back between two blocks to support the router and then rout the mortise.



Dowel Holes. After marking the hole locations, use a doweling jig to drill straight holes in the back and sides.

SUB-ASSEMBLY. Now add glue in the grooves on the back and insert the sides, making sure the magnet holes are at the front. Take a moment to check that the sides are perfectly square to the back.

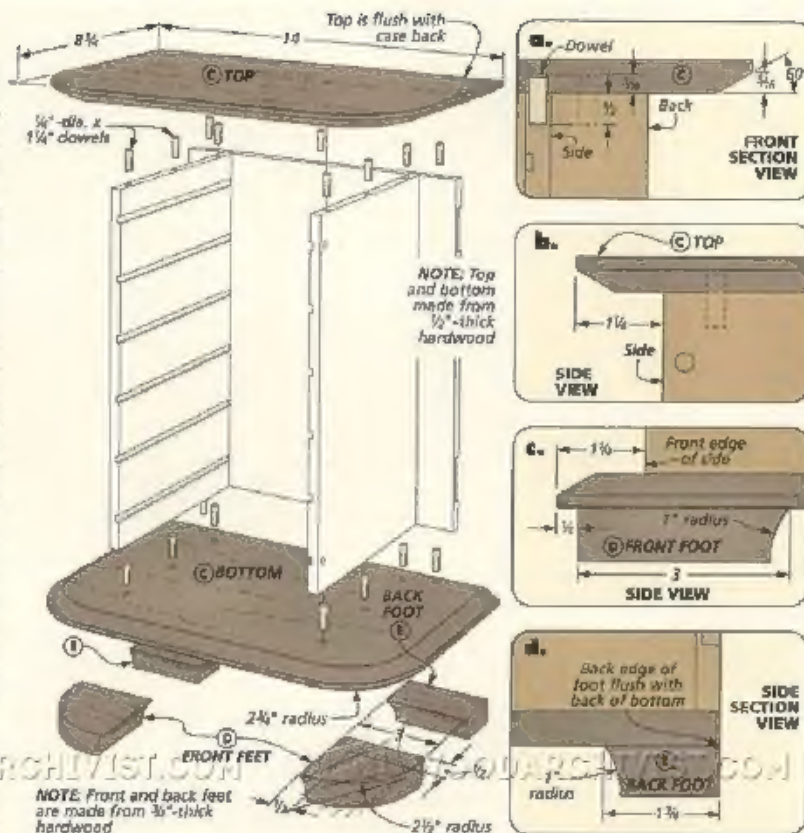
TOP & BOTTOM. With the sides and back assembled, you can move on to making the top and bottom. I used wenge, known for its rich, dark color and spectacular grain. I started by planing it to $\frac{1}{2}$ " thick.

After cutting the top and bottom to final size, the next step is to round the front corners of both pieces. For this, I marked the layout using a compass and then cut the corners at the band saw. The drawing below shows the process.

CHAMFER THE EDGES. At the router table, install a 60° chamfer bit and rout the edges of both pieces (center drawing, below). I routed the chamfer in light passes to avoid splintering the wenge. It's a good idea to finish with a very shallow cleanup pass.

I used $\frac{3}{4}$ "-thick wenge for the front and back feet. The edges have a cove profile. The front feet are also rounded (lower right drawing). You can find details for making the coves in Shop Notebook on page 32. After sanding, glue the feet in place on the bottom.

ASSEMBLY. Before assembly, you'll need to mark the dowel hole locations on the top and bottom.



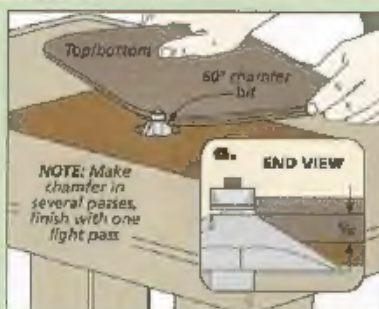
An easy way to do this is to place $\frac{1}{4}$ "-dia. dowel centers in the holes in the sides and back. Then, set them in place on the bottom. After checking to make sure the position is even and square, tap

the sides and back. Now all you need to do is drill holes at the site of the marks. Repeat this process to mark the top. Finally, attach the back and side sub-assembly with glue and dowels.

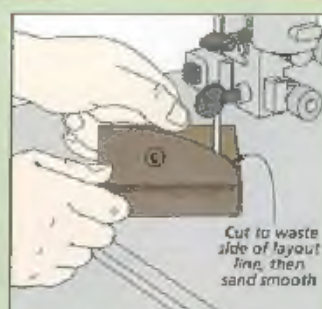
Shaping the Top, Bottom & Feet



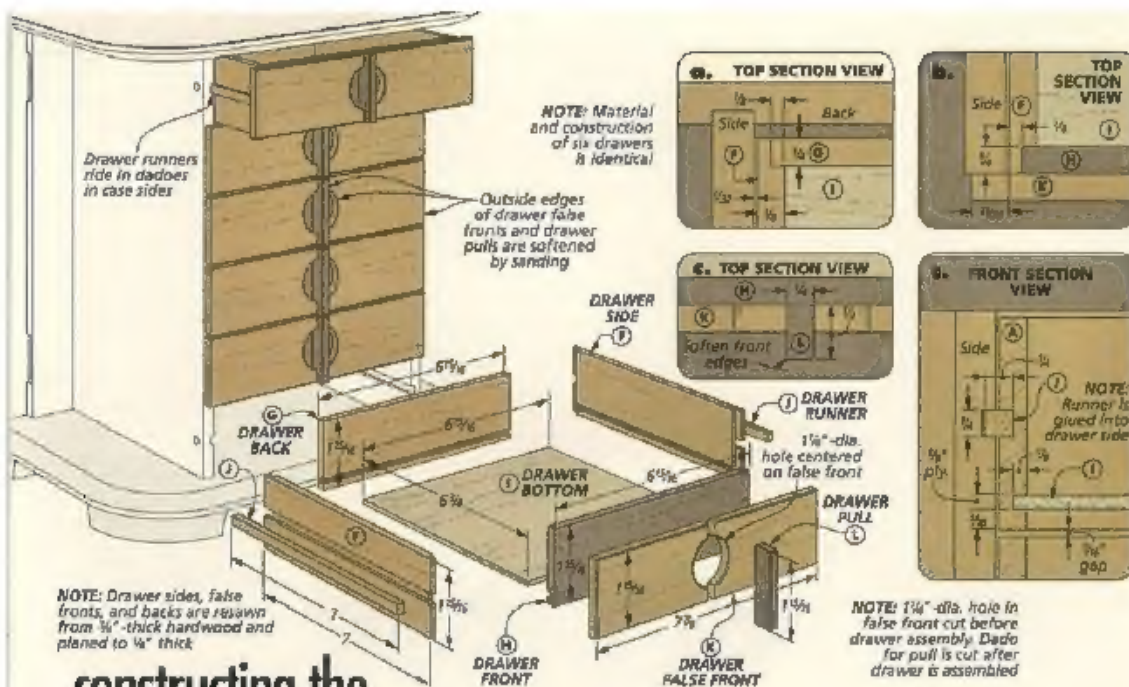
Rounding the Corners. First, lay out the radius on the corners with a compass, then cut to the line at the band saw.



Chamfer the Edges. Use the 60° chamfer bit to add the decorative profile on the edges. Making light passes will help prevent tearout.



Cutting the Feet. After cutting the cove profiles on the feet blanks, round the corners at the band saw.



constructing the DRAWERS

With the case complete, you can turn your attention to the drawers. The six drawers are identical, so that makes things pretty straightforward. I used rabbit joints since the drawers won't be holding much weight. As you can see in the drawings above, the drawers slide on simple hardwood runners.

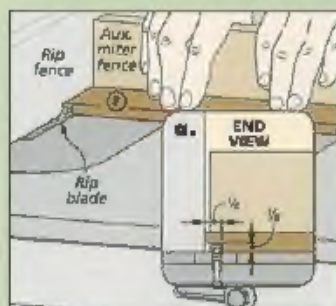
START WITH THE SIDES. After planing some stock to the correct thickness, cut the sides to final size. You can then cut the rabbets on the ends at the table saw. For this, I relied on a miter gauge with an auxiliary fence to prevent tearout. The left drawing below shows how I made the cuts.

On the outside faces, cut a centered groove for the drawer runners by making the first cut near

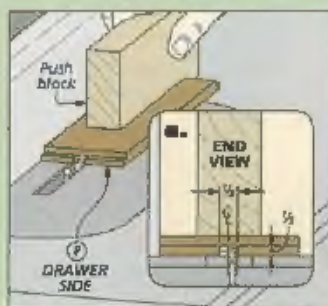
the center of the workpiece and then flipping it for the second cut (center drawing, below).

DRAWER FRONTS, BACKS, & BOTTOMS. Even though the drawer fronts are wenge and the backs are maple, they're identical in dimension and installation. When you've finished cutting them all, set the rip fence and cut the groove for the drawer bottoms as shown in the right drawing below.

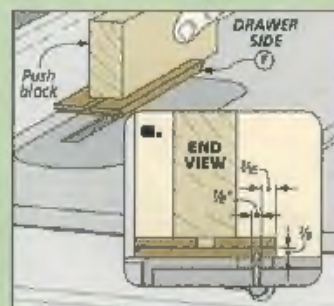
How-To: Cut the Drawer Sides



Rabbets. With an auxiliary fence on the miter gauge, you can use the rip fence as a stop to cut the rabbets on the ends.



Groove. Cut the centered groove in the drawer sides with a rip blade by flipping the piece end-for-end between cuts.



Groove for the Drawer Bottom. Set the rip fence and cut the shallow groove in the fronts, backs, and sides.

I used $\frac{1}{4}$ " birch plywood for the drawer bottoms. All you need to do is cut each one to final size and you're ready to test fit the drawer assemblies.

ASSEMBLY. At this point, you can assemble the drawers using glue in the rabbets and in the grooves for the drawer bottoms. Make sure to check each drawer box for square as you clamp them up and allow them to dry.

DRAWER RUNNERS. The next step is to add the runners to the drawers. First you'll need to rip the narrow strips at the table saw. Then cut them to final length and glue them into the grooves on the drawer sides. Test fit each one in the case and lightly sand the runners if necessary for a good fit.

FALSE FRONTS. One of my favorite design features about this project is the curly maple false front over the dark wenge. The main drawing on the opposite page shows how it works. When you drill the hole and cut the dado for the drawer pulls, it exposes a nice contrast. The drawings at right explain the steps needed to add the false fronts and drawer pulls.

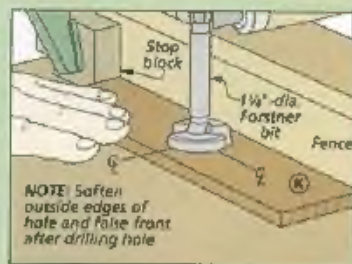
With the drawers installed in the case, I positioned the false fronts on the drawer boxes. Starting at the bottom drawer, use tape to hold the false front in position.

Next, add glue and spring clamps to complete the assembly. Try to avoid squeezing out near the hole in the false front.

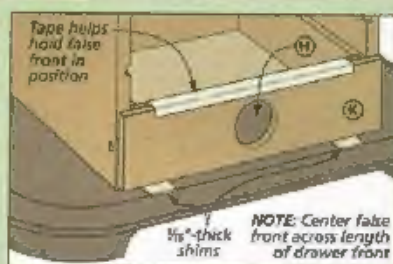
After the glue dries, head over to the table saw and cut the centered dado in the fronts. This is best done with a tall auxiliary fence on the miter gauge and a stop block to make consistent cuts. I used a cut-and-flip method to make sure the dado was centered.

ADD THE PULLS. Finally, I ripped $\frac{1}{4}$ "-thick wenge into $\frac{1}{2}$ "-wide strips to use as drawer pulls. I also did a little bit of gentle sanding to break the sharp front edge of the stock. Then, simply cut the pulls to length and install them in the dados on the fronts with glue and clamp them in place.

How-To: Add False Fronts & Pulls



Drilling. After marking the centerpoint of the false front, align it with the bit and set the fence and stop block.



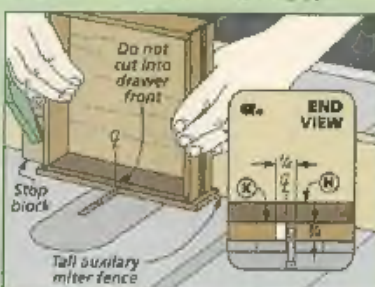
False Fronts Spacing. With the drawer in place in the case, use a strip of tape to position the false front vertically and horizontally.



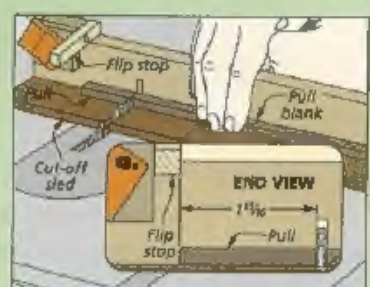
Clamping. Spring clamps provide plenty of clamping pressure for the glueup and the tape prevents slipping.



Add the Rest. Continue adding false fronts to the drawers by positioning each drawer in its spot and repeating the glue-up process.



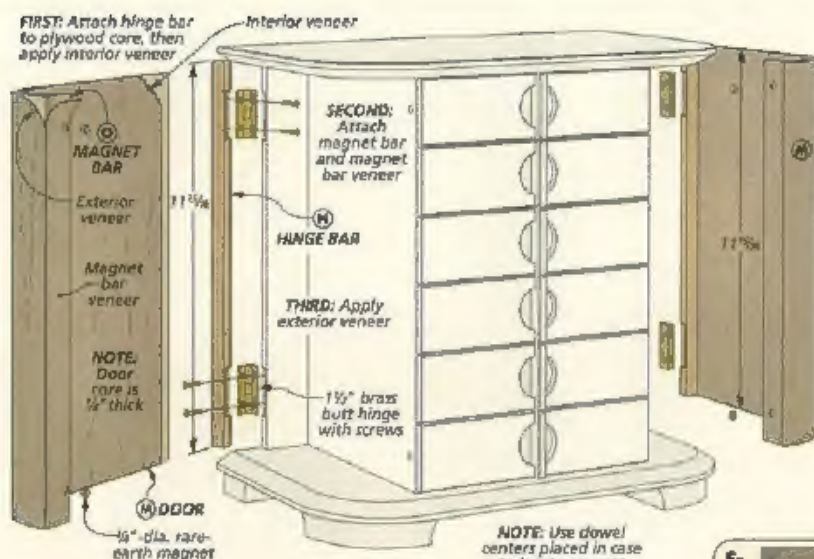
Centered Dado. Once again, I used a "cut-and-flip" technique to cut a centered dado in the false fronts for the drawer pulls.



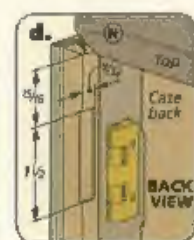
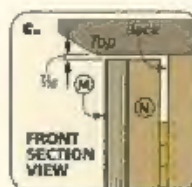
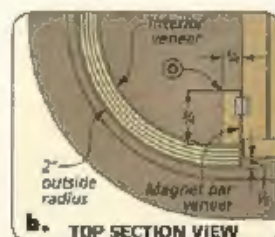
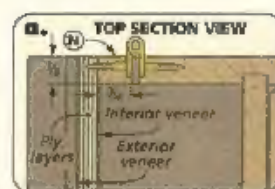
Drawer Pulls. After planing the stock to fit the dados, simply cut them to length. (See page 14 for tips on cutting small parts.)



The hole and wenge strips combine to create a unique drawer pull.



adding the DOORS & HARDWARE



One of the highlights of this jewelry chest is the distinctive curve of the doors. The secret to making them is to use $\frac{1}{8}$ "-thick bending plywood. This plywood is manufactured with the grain running the same direction in all the plies so it bends easily. After laminating a plywood core, you'll cover it with a veneer, like the curly maple I used. Opening the doors reveals several brass necklace hangers.

BENDING FORM. I started by making a plywood bending form. You can find the details you'll need to build it in Shop Notebook on page 32. The form features a round edge for the curves and an array of holes in the sides, allowing plenty of access for clamps.

PREPARING THE PLYWOOD. After building the form, cut the four pieces of bending plywood slightly oversize. I started with the pieces

roughly $11" \times 12\frac{1}{2}"$. This will allow you to trim the edges and clean up the squeezeout after the glue sets up. You'll also want to make sure the sheets are aligned to bend in the same direction. (You can easily feel the right direction to bend the plywood.)

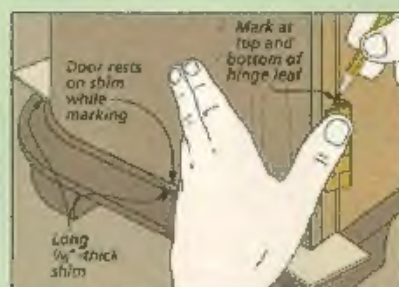
Before adding the glue to the laminations, I did a dry run to get a feel for the bending process. The drawings on the opposite page walk you through the steps.

You can start by clamping the front edge of the stacked pieces in the form with a caul on the outside. Then I made sure the rest of my clamps and cauls were within easy reach, ready to go.

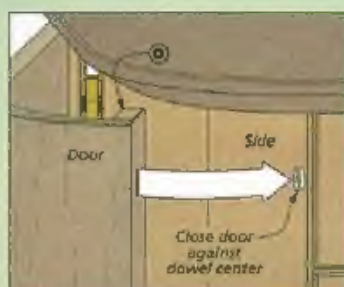
BENDING & GLUING. After the dry run, apply an even coat of glue over one side of each sheet. Stack the plies in the form and add the clamps and cauls. I used cold-press veneer glue to help avoid springback in the lamination.

After the glue has dried, inspect the doors for a gap-free lamination and twist. Then, you can clean up the edges with a plane and square them at the table saw.

How To: Attach Door Hardware



Marking Hinge Location. Use a thin shim to support the door while you position it against the case and mark the mortise location.



Locating the Magnets. Slip a $\frac{1}{8}$ " dowel center in the hole in the case to mark the mating hole for the magnet.

I cleaned up the top edge with a block plane, then set the rip fence to trim the bottom edge on the table saw. Then, I used the miter gauge and an auxiliary fence to square up the front and rear edges of the doors. The important thing here is to trim the front edge of the door clean and square. You'll use this edge to align the door with the drawer fronts and then trim the back edge to final length.

HINGE BAR. A hardwood hinge bar is attached to the rear edge of the door. As you can see in details 'a' and 'd' on the opposite page, this bar is mortised for the hinge.

After gluing the bar in place, use shims to position the doors. Then mark the hinge location to match the mortise on the case (see the box on opposite page).

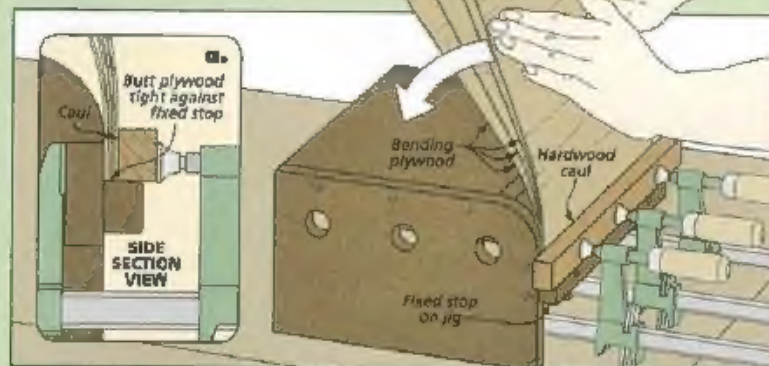
Once you've cut the mortises, test fit the hinges to make sure the doors align properly. Remove the doors for now and set the hinges aside until final assembly.

VENEERING. At this point, you're almost ready to veneer the inside face of the doors. But first, I added a seal coat of finish to the raw plywood. This guarantees a better bond with the self-adhesive veneer. Lightly sand the finished doors. Then, add the veneer and use a roller to remove any air bubbles. The bottom two drawings at right show the order you need to follow as you add the veneer and the magnet bar.

MAGNET BAR. After trimming the inside piece of veneer, I attached a magnet bar on the front edge of the doors. This houses the rare-earth magnets that match up with the ones in the case. The box at the bottom of the opposite page shows how to locate the holes.

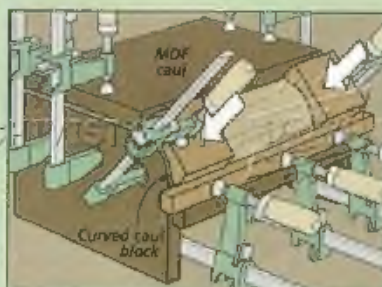
COMPLETING THE VENEER. With the bar glued in place, you can install the rest of the veneer. Begin by attaching narrow strip of veneer to the the magnet bar. Then you can add the veneer to the outside face of the doors. As before, use a roller to press the veneer in place and get a good glue bond. Finally, trim the

How-To: Laminate the Doors



Bending the Plywood. It's a good idea to do a dry run of the bending process. Start by clamping the sheets at the front edge.

Then, use hand pressure to bend the sheets over the curved form. Finally, lay out all the clamps and you're ready to add glue.



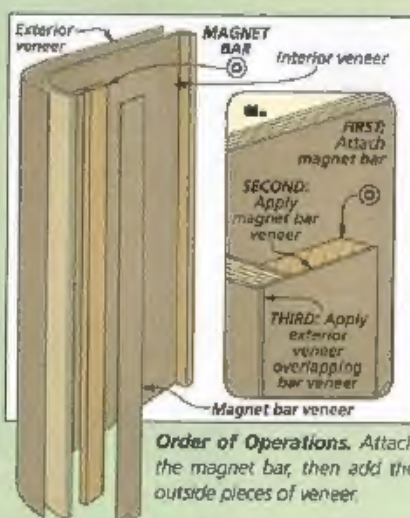
Clamping the Bent Sheets. Use curved cauls to clamp the sheets around the bends and a flat caul to apply even pressure to the top.



Cutting Door to Final Size. Use a stop block and an auxiliary fence on the miter gauge to hold the door and cut it to size.

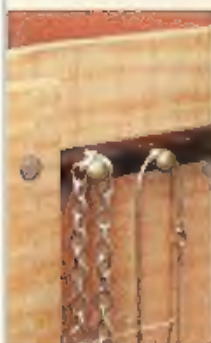


Veneering. After gluing the hinge bar in place, butt the veneer up to the edge and press it into place.



Order of Operations. Attach the magnet bar, then add the outside pieces of veneer.

placing the NECKLACE BARS



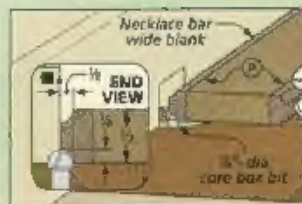
▲ With the necklace bar and brass hangers installed, the doors become extra storage space.

There are only a few more steps needed to complete the jewelry chest. First, you'll need to attach the necklace bars and hangers to the doors. Then, it's just a matter of adding the drawer lining and dividers, installing the doors, and putting a nice finish on the piece.

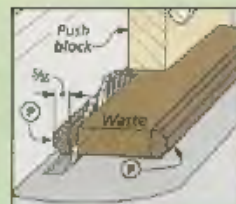
NECKLACE BARS. The wenge necklace bars hold the attractive brass hangers. The way to make them is shown in the box at right. It starts with an extra-wide blank. This makes it easier and safer to rout the coves on the edges.

Next, you simply rip the bars free and drill the holes for the hangers. I used the band saw to cut a rounded profile to match the inside curve of the doors. A little sanding will help you fine-tune the fit. Finally, just glue them in place on both doors.

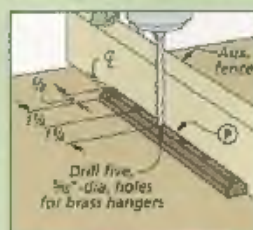
FINISH. I finished the piece with wiping varnish to bring out the curl of the maple and the richness of the wenge. After that, I made some drawer dividers and lined the drawers. For those steps, see the tips on the opposite page. ■



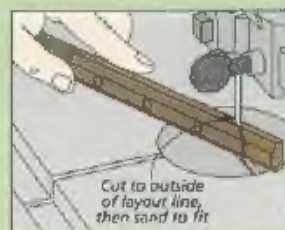
Routing Profiles. Starting with an extra-wide blank makes routing the necklace bars easier and safer.



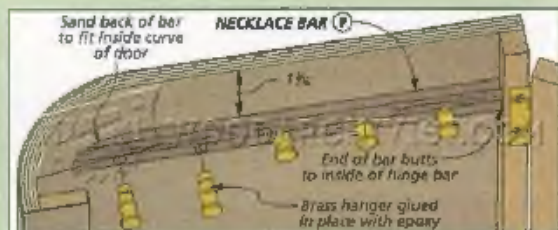
Rip to Width. Ripping the necklace bars to final width is a breeze at the table saw.



Drilling. With the hole locations laid out on the blank, use a fence to keep them in line.



Cutting Curve. After marking the curve on the blank, head to the band saw and cut close to the line.



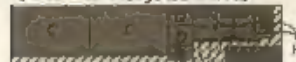
Fitting the Necklace Bar. With the holes drilled and the bar cut to shape, the final adjustments are made by sanding the curve for a gap-free fit before gluing the bar in place.

Materials, Supplies & Cutting Diagram

A Sides (2)	$\frac{3}{4} \times 7\frac{1}{4} = 12\frac{1}{16}$	K Drawer False Fronts (6)	$\frac{1}{4} \times 1\frac{15}{16} = 7\frac{7}{8}$
B Back (1)	$\frac{3}{8} \times 10\frac{7}{8} = 12\frac{1}{16}$	L Drawer Pulls (6)	$\frac{1}{2} \times \frac{3}{4} = 1\frac{15}{16}$
C Top/Bottom (2)	$\frac{1}{2} \times 8\frac{3}{4} = 4$	M Doors (2)	$\frac{1}{4}$ ply - 10 rgh x 11 ¹⁵ / ₁₆
D Front Feet (2)	$\frac{3}{4} \times 3 = 3$	N Hinge Bars (2)	$\frac{3}{8} \times \frac{1}{16} = 11\frac{15}{16}$
E Back Feet (2)	$\frac{3}{4} \times 3 = 3\frac{3}{4}$	O Magnet Bars (2)	$\frac{1}{4} \times \frac{3}{4} = 11\frac{15}{16}$
F Drawer Sides (12)	$\frac{1}{4} \times 1\frac{15}{16} = 7$	P Necklace Bars (2)	$\frac{1}{2} \times \frac{5}{16} = 7$
G Drawer Backs (6)	$\frac{3}{4} \times 1\frac{15}{16} = 6\frac{15}{16}$		
H Drawer Fronts (6)	$\frac{1}{4} \times 1\frac{15}{16} = 6\frac{15}{16}$		
I Drawer Bottoms (6)	$\frac{1}{8}$ ply - 6 ³ / ₄ x 6 ¹⁵ / ₁₆		
J Drawer Runners (12)	$\frac{1}{2} \times \frac{1}{4} = 7$		



$\frac{1}{8} \times 8 - 96"$ Maple (3.3 Bd. Ft.)



$\frac{1}{8} \times 10 - 48"$ Wenge (3.3 Bd. Ft.)

ALSO NEEDED: Four pieces $10\frac{1}{2} \times 12\frac{1}{2}$ self-adhesive veneer
NOTE: Part P is cut from an extra-wide blank

NOTE: Parts C, L, and P planed to $\frac{1}{8}"$ thick. Part H planed to $\frac{1}{4}"$ thick. Parts E, G, and K are resawn and planed to $\frac{1}{8}"$ thick. This yields two of each part shown in the cutting diagram

$25 \times 25 - 1.5$ mm
Bending Plywood
(2 sheets needed)



$24 \times 24 - \frac{3}{8}"$
Birch Plywood



Enhance Your Jewelry Chest: Liners & Dividers

Drawer Liners

If you want to go one step further and add a few luxuries to your completed jewelry chest, then fabric-covered padding is the place to start. Our online extra includes all you need to know about fabric and padding choices, glue and posterboard options, the tools you need to work with fabric, and a step-by-step guide to help you through lining each drawer.

I used velvet to line the bottoms of the drawers, as shown in the right photo. But there are a host of other choices for both fabric and padding.



Drawer Dividers

In order to customize the drawers and prevent the contents from sliding around, I made a few different types of drawer dividers. And though the size and number of partitions varied, you can use the same technique to build them all.

You can start by resawing and planing some stock to $\frac{1}{8}$ " thick. This thickness is perfect for the small drawers. Then, I used a very simple, half-lap joint to make the different sized dividers. It's easy to cut this joint at the table saw. I also varied the height of the dividers for different contents.



Ring Cushions

Making a special area in the jewelry chest to hold rings is a nice touch. It's also an easy process. I found most people prefer to have rings in a removeable tray, so that's the place to start. The online plans have the details.

Once you've built the tray, all you need to do is glue rolls of padding onto posterboard and then wrap the rolls with fabric. And there's no need to worry about sewing. All the materials were glued in place using specially formulated glue designed to instantly bond fabric.



tips from our shop

SHOP NOTEBOOK

Bending Form

Creating the curved doors for the jewelry chest on page 34 isn't nearly as difficult as it might seem. The secret is to use a special, bendable type of plywood, along with a shop-made form like the one shown at right.

The bending form is made out of MDF. Several cauls allow you to clamp the layers of plywood together and hold them in place while the glue dries.

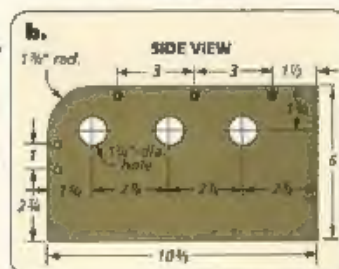
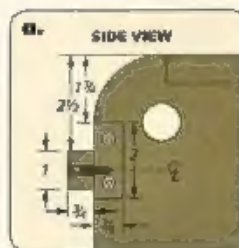
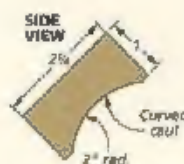
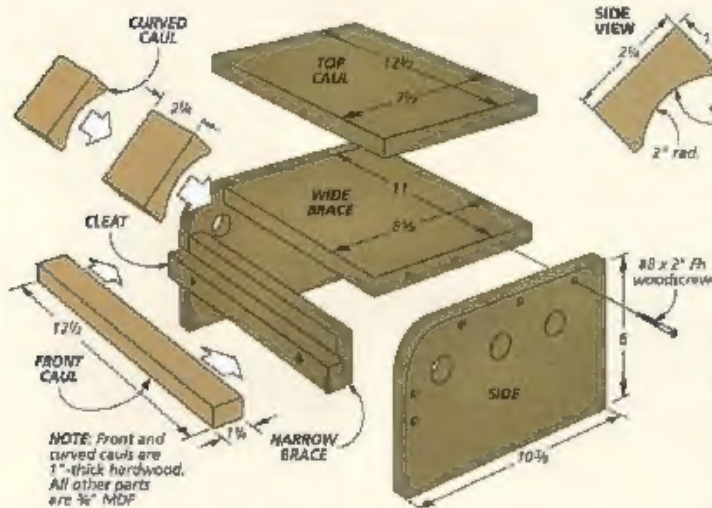
As you can see below, the form is made up of two sides and a pair of braces—a wide brace on the top and a narrow one at the front. The front corner of each side is rounded to match the inside radius of the doors of the jewelry chest. A row of holes is drilled in each side for clamps.



After screwing the sides to the braces, a cleat is added to the front of the form. This cleat prevents the plywood layers from slipping as you apply the clamps. It also acts as a registration strip for the front edge of the door, so it's important to attach the cleat square to the sides of the form.

CAULS. The last parts to make are the cauls. The top caul is simply a piece of $\frac{3}{4}$ " MDF. The front caul

is cut from a strip of hardwood. And finally, to make certain the layers of plywood conform to the rounded corners of the form, I made a couple of curved cauls to match the outside radius of the doors. To do this, I simply drew a 2" radius on the end of a couple of blanks and then cut the curves on a band saw. After a little sanding, the cauls matched the radius of the curved door perfectly.



Taper Jig

Cutting the short tapers on the legs of the folding table on page 24 is a simple job on the table saw. All you need is a jig to hold the leg at the proper angle.

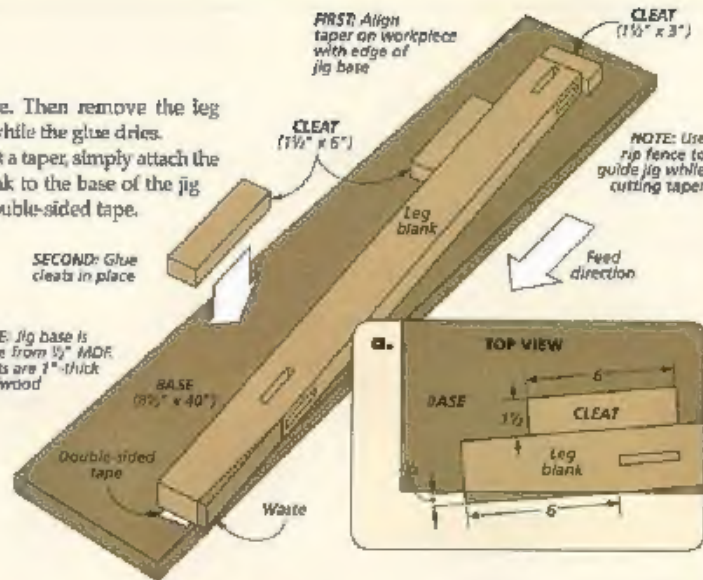
The jig I used is shown at right. It consists of nothing more than an MDF base with a few cleats to position the leg blank.

To make the jig, I started by laying out the taper on one of my leg blanks. Then I placed the blank on the base of the jig, lining up the taper with the edge of the base. While holding the blank in this position, you can glue the cleats to the base of the jig — one at the end of the blank and two along

the side. Then remove the leg blank while the glue dries.

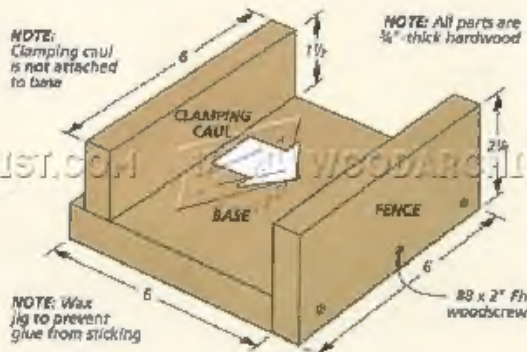
To cut a taper, simply attach the leg blank to the base of the jig with double-sided tape.

NOTE: Jig base is made from 1/2" MDF. Cleats are 1"-thick hardwood.



Clamping Jig

Gluing up the blank for the coasters on page 21 is a bit of a challenge. To prevent the pieces from slipping, I made this simple clamping jig. It's just two pieces of hardwood screwed together — a base and a fence. A separate clamping caul traps the pieces against the fence. And the open ends allow you to clamp the pieces from both directions.



Feet Profile

To create the 1"-rad. cove profile on the feet of the jewelry chest, I used a Forstner bit in the drill press. As you can see below, I sandwiched the blanks between a couple of scrap pieces of 3/4" MDF.

A spacer block placed between the blanks provides a centerpoint for the drill bit. With the "sandwich" clamped to the drill press, it's a simple matter to drill out the waste for the coves.

